

C. pamphilus.—A good many specimens of both sexes; June specimens, rather large with fairly conspicuous light band on the upper half of the underside hindwing; July specimens small, with mere indications of the light band.

Maniola jurtina.—Two ♂s and 1 ♀, distinctly of the *hispulla* form, having considerably smaller than those from further south.

Melanargia galathea.—Several specimens, all ♂s; coming from Turkey they should be of the race *turcica*, but are not so dark as those from Greece and Bulgaria, and are also considerably smaller.

Of the "Skippers" there are five species. *E. alcaee*.—Two specimens, rather small ♂s.

E. althaeae.—One ♂, quite like those from Central Europe.

Adopoea sylvanus.—A pair, in no way remarkable.

A. flava (linea).—One large ♂, but not rivalling those from Greece, which are quite as large as the previous species.

Thymelicus acteon.—Two specimens, rather dark but otherwise quite usual. "Skippers" as a rule don't stand papering well on account of the thickness of their bodies; these on the whole have come out remarkably well, especially *E. alcaee*, which, when taken, seems to be usually more or less ragged. All specimens (except *A. anteros*) are remarkably of a Central Europe form.—Rev. G. WHEELER, M.A., F.R.E.S.

A NOTE ON SCENT-BRUSHES IN THE HEPIALIDAE.—Mr Murray's statement, that "the presence of the Scent Brush . . . and not *vice versa*," seems to require some comment. Firstly, there does not seem to be any general theory that the female seeks the male in all Hepialid species. In fact, I have always considered our few English species as providing an excellent sample of the different methods of sex-attraction: by scent, female attracting male (*lupulinus*, *sylvinus* and *fusconebulosus*), male attracting female (*hectus* and perhaps *humuli*); by sight, male attracting female (*humuli*). In the case of *lupulinus*, I have often seen a newly-emerged female sitting on grass in a calling attitude and, when no male arrived, moving off to another place and, after she had gone, a male flying to the place where she had been and getting very excited, crawling and flying all around it in a vain hunt for the female, obviously attracted by some odour left behind by her. In *hectus* the scent (compared to pine-apple), emitted by the male, is well-known and the males have a pendulatory flight, often several (to a dozen or more) flying in close proximity until a female flies near (or touches) a male and drops down close by, the male pursuing her and coupling. The best way to collect the female is to watch for this to happen or to sweep around the places where the males are seen hovering, when paired couples are to be got in numbers. In *humuli* the scent emitted by the male is less evident but has been noted by several observers, e.g., Barrett, *E.M.M.*, xxviii, 217 (1892), but the female *humuli* seems to be attracted to the male mainly by sight, as is indicated by the fact that the brilliant white male form, which is so conspicuous at dusk in England, is replaced in Scotland by the female-like form, *thulensis*, Newman 1865, more and more as one goes northwards from about Lanarkshire, until in the Shetlands the silvery-white form of the male is almost replaced by the very variable *thulensis* resembling the female: as Jenner Weir noted, *Entom.*, xiii, 251 (xi, 1880), "in the Shetlands, where in Summer the

nights are so much lighter than with us, it is not so necessary that the males should be conspicuously coloured to enable the females to distinguish them." Any one who watches the white males hovering in their characteristic oscillating manner can see the female strike against her selected mate, when both drop and pair. Secondly, I do not follow Mr Murray's idea that "the male is using his Scent Brush, while in flight, as a means of finding his partner (as must be supposed)" in the case of *humuli*. It appears to me that the male merely has a second string to his bow to attract or excite the female. Anyway, it is very certain that the female *humuli* searches for and finds the male, not *vice versa*.

Outside of our species, I do not know of much on record regarding pairing habits of Hepialids. I note that some species of *Phassus* (e.g., *damor*, Moore, and *malabaricus*, Moore have very complex tibial scale tufts on hind leg of male. Of the large *Hepialus* (or *Charagia*) *virescens*, Doubleday, from New Zealand, Hudson (*Moths Butt. New Zeal.*, p. 359, 1928) says: "The large expansible tuft of long reddish-brown hairs on the tibia of the hind leg of both sexes is probably a scent organ, but I have not been able to detect any definite perfume by stirring the tuft, even in freshly-killed specimens," so here apparently we have scale tufts in both sexes of the same species.—T. BAINBRIGGE FLETCHER, Rodborough, 27.iii.1943.

NOTE ON THE CORRESPONDENCE CONCERNING CUCULLIA SCROPHULARIAE.
—Dr Cockayne's reply to my note in the February number mentions that, in addition to differences in the colour of the caterpillars, he pointed out that there are differences in pattern as well and that the imagines can be distinguished by an expert if they are in a fresh condition. He adds also that there are biological and structural differences. Of course there are, but all this is equally true of biological races. As to his statement that there can be no doubt that *verbasci* is specifically distinct from *scrophulariae*, I thought the correspondence arose on that very question? We are back at the old division between "Whole-hoggers" and "Hair-splitters" and it is the latter who cause so much trouble and do so much towards building up synonymies.—FRANK BALFOUR-BROWNE, 18.iii.1943.

NOTE ON THE CORRESPONDENCE CONCERNING CUCULLIA SCROPHULARIAE.
—I think Professor Balfour-Browne has a conception of a biological race slightly different from mine, and I still prefer to regard *Cucullia verbasci*, *scrophulariae*, and *lychnitis* as species rather than biological races. With more careful study we are sometimes finding that two closely allied species have been treated as one, and with their separation two names become necessary. I do not regard such a separation as "hair-splitting," nor do I think the two names are synonyms.—E. A. COCKAYNE, 23.iii.1943.